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October 5, 2000

BY HAND

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 – 12th Street, S.W. – The Portals
TW-B204
Washington, D.C. 20554

Dear Ms. Salas:

Attached is a memorandum that responds to a request from the staff for additional information on specific applications of Instant Messaging that are now or will likely be deployed. This matter first arose at an already-noticed meeting last month with the Cable Services Bureau and representatives from iCast, Tribal Voice, Excite@Home, AT&T and Microsoft.

Should you have any questions concerning the attached, please contact the undersigned.

Sincerely,

Margaret Heffernan,
President and CEO
iCast
78 Dragon Court
Woburn MA 01801
(781) 994-4100

Attachment

cc: Chairman William E. Kennard
Commissioner Susan Ness
Commissioner Harold W. Furchtgott-Roth
Commissioner Michael K. Powell
Commissioner Gloria Tristani
Ms. Deborah Lathen
Mr. Bill Johnson
Ms. Royce Dickens
Mr. Darryl Cooper

ORIGINAL

Ms. Linda Senecal
Mr. Andy Wise
Ms. Nancy Stevenson
Mr. John Berresford
Mr. Doug Sicker
Mr. Michael Kende
Dr. Robert Pepper
Mr. Jim Bird

INSTANT MESSAGING IS AN IMPORTANT PLATFORM FOR BOTH CURRENT AND NEXT-GENERATION INTERNET APPLICATIONS

In the course of arguing that their merger would have no impact on IM, AOL and Time Warner ("Applicants") have resorted to denigrating the very service that Time Warner's own Chairman recently characterized as one of the most important assets of the combined AOL-Time Warner. More specifically, Applicants assert that IM is neither unique nor a platform capable of supporting innovative applications.[1]

Even today that is not true. Numerous companies today are using IM's unique features to provide a range of applications that are not available on any other platform.[2] For example, Digital Cyclone has developed IM applications that provide location-based weather forecasts and ecal has developed IM applications that provide a web-based calendar incorporating presence information.[3] Indeed, AOL itself has begun innovating its IM service adding such new features as real-time stock quotes.[4]

But even if Applicants' assertions were true today, current IM services and applications have only scratched the surface of IM's potential. In a competitive market, one could expect IM to be used as a platform for a plethora of innovative new applications and IM to be integrated more broadly into a host of next-generation devices.

IM is a natural platform for audio and video-based conferencing and other audio and video-related services and applications. IM platforms will (and, in some cases, already do) support IP telephony applications that allow IM users to engage in "conference calls" instead of text chat. For example, HearMe has developed an application for AOL's ICQ platform that

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[1] *See Ex Parte* Letter from George Vradenburg to Deborah Lathen (Sep. 29, 2000).

[2] http://www.digitalcyclone.com/; http://www.digitalcyclone.com/; *See generally* Technical Marketing Inc., *Presence and Instant Messaging Report* (August 2000) (attached hereto as Exhibit 1).

[3] *Id.*

[4] http://cws.internet.com/reviews/chat-aim6.html; http://www/aol.com/aim/.

allows "buddies" to talk to each other using their PC microphone and keyboard.[5] Likewise, AOL has reached an agreement with Net2Phone to integrate IP telephony into AOL's AIM service.[6] And, as broadband technology is more widely deployed, "video" services could also, in a competitive market, be expected to be available over the IM platform.[7]

New "file swapping" software will also enable a host of new products. While most "file swapping" services open a user's hard drive to the world, file swapping in the IM context allows limited access to only specified "buddies." This enables applications like those recently developed by Aimster that lets IM users share music files with their buddies.[8]

Programmers are likewise beginning to learn the potential of IM for "B-to-B" applications. Lotus and Novell are developing software that links with AOL's IM and ties directly into a company's corporate directory software thereby allowing employees to communicate with each other instantly, or executives to contact everyone in the company immediately.[9] These companies also plan to add audio and video in future versions thereby allowing business to hold meetings with multiple people instant messaging each other.

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[5] *See* http://www.hearme.com/company/about/news/hearme_pr-2000/pr-20000120-01.html

[6] http://media.web.aol.com/media/press_view.cfm?release_num=5100405&title=AOL%20Announces%20Three%2DYear%20Internet%20Telephony%20Agreement%20%20With%20Net2Phone%20For%20AOL%20Instant%20Messenger.

[7] *See* http://www.zdnet.com/zdnn/stories/news/0,4586,2572225,00.html.

[8] *See* http://news.cnet.com/news/0-1005-200-2776806.html?.

[9] *See* http://news.cnet.com/news//0-1007-200-1648626.html?tag=st.cn.sr.ne.1; http://media.web.aol.com/media/press_view.cfm?release_num=10100426&title=NOVELL%20AND%20AOL%20TEAM%20UP%20TO%20INTEGRATE%20AOL%20INSTANT%20MESSENGER%20WITH%20NOVELL%20DIRECTORY%20SERVICES%3B%20CO%2DBRANDED%20CLIENT%20WILL%20LINK%20NDS%20WITH%20AIM%20COMMUNIT; http://media.web.aol.com/media/press_view.cfm?release_num=100030&title=Lotus%20and%20America%20Online%20Extend%20Partnership%20to%20Deliver%20Co%2Dbranded%20Offerings%20for%20Users%20of%20Lotus%20Notes%20R5%20and%20Lotus%20Sametime%20Users.

FaceTime Communications has also developed software based on AOL's IM that not only allows IM collaboration among employees, but can also be used to handle customer service.[10]

While these and other similar applications promise significant consumer benefits, they are in many ways simple extensions of the existing IM service. Programmers are also in the process of developing applications that rely on the IM platform that are, frankly, revolutionary because of the eventual ability of IM to support not just buddy lists and presence detection, but also the adaptation of IM to differing bandwidth, memory and display capabilities. However, if these applications are to be developed, programmers must have access to IM protocols used by a particular IM service because it is those protocols that enable programmers to fully utilize IM's tremendous capabilities.[11] In addition, IM services must permit anyone with valid software to use the service. In this regard, these IM applications are no different than existing applications accessed by Internet browsers – programmers must have access to current Internet protocols in order to ensure that users can download their applications and use them properly.

Only the imagination and creativity of software developers, and the extensibility of the protocols they use, limit the type of applications that can be run on the IM platform. For example, in the fast-growing "intelligent agent" area, an increasing numbers of innovative applications are under development that search the Internet for news/information specified by users (*e.g.*, news and weather alerts, school scheduling information, business news) and then deliver that information to whatever device the user has activated and packaged in the form the user has specified.[12] Intelligent agents can monitor airline, train or bus reservations, and through

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[10] *See* http://www.internetwk.com/indepth/indepth042400.htm.

[11] The protocols must also be "extensible" so that new capabilities can be incorporated in standard ways.

[12] *See* http://www.nytimes.com/library/tech/00/07/biztech/articles/17lab.html; http://webopedia.internet.com/TERM/i/intelligent_agent.html; http://news.cnet.com/news/0-1005-200-1422946.html; http://www.agentbuilder.com/AgentTechnology/agentApplications.html; http://www.zdnet.com/intweek/stories/news/0,4164,2590220,00.html.

IM, inform the consumer of the status of a departure and search out alternative departures should the preferred schedule become delayed or be cancelled. Intelligent agents can monitor weather changes and through IM, alert travelers of weather advisories and parents of changes in school schedules. In fact, Yahoo and others have already developed applications that alert IM users to changes in stock prices, the status of their online auctions, or the addition of entries on their online calendars.[13]

Likewise, whether PC-based or separate home or automobile units, "Internet" radios will have the capacity to use IM to direct music to a particular radio (based upon the user's location and designated preferences). IM "filtering" capabilities could also be used to allow listener feedback to cause real-time tailoring of the music selections and customer purchase of that music in MP3 (or any other) format.

Finally, in order to enjoy the full benefit of such intelligent agent applications, IM users will want to be able to obtain IM service not only at a PC, but also while away from the home or office. Including IM platforms in wireless devices will allow users to better utilize the intelligent agent technologies discussed above because IM's unique presence detection capabilities allow the intelligent agent to "push" information to the device instead of the computer. Indeed, Odigo today is developing wireless IM that "will enable users to pick and choose whose messages they want to forward to their mobile devices and whose they want to ignore."[14] In addition, mobile IM allows a user to remain in contact with co-workers and customers regardless of where he or she is, and thereby better utilize the IM "groupware" applications discussed above.

Industry analysts likewise predict that wireless IM will be big business. "By 2004 there will be 43 million wireless IM users" and wireless carriers will earn over $360 million in annual

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[13] Dennis Fisher, *Small talk goes big bucks*, eWeek (Sept. 25, 2000).

[14] *Id.*

revenues by that time.[15] While IM may be made available for free, carriers will earn revenues by selling "presence" information to companies that can use it to market their services or products.[16] Users that do not desire to see such advertising will have the option of getting IM for an additional charge.[17] Other IM services may be bundled with other ISP offerings, similar to how email and web pages are bundled with ISP access today. In short, a variety of different business models will co-exist.

It is precisely for these reasons that IM is increasingly being moved off the PC and onto a host of new, next-generation devices.

- *Wireless Telephones.* "IM is poised to become the backbone for . . . cell phones."[18] While current plans are to link cell phone users with desktop-based IM users, "phone-to-phone" IM is also in the works.[19] AOL has been particularly successful in pushing its Internet services on wireless phone carriers, even carriers that offer competing Internet service. AOL has "partnered" with market leaders AT&T, Vodafone AirTouch and Sprint and will provide AOL branded wireless Internet services to these carriers' wireless phone customers.[20]

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[15] Callie Nelson, *Instant Messaging: Wireless IM Market Forecast and Analysis, 2000-2004*, at 1 (June 2000) (attached hereto as Exhibit 2).

[16] *Id.* at 18.

[17] *Id.* at 19.

[18] http://www.zdnet.com/anchordesk/story/story_4465.html.

[19] Lisa Croel, *Market Report: Chat and Instant Messaging* (May 2000) (attached hereto as Exhibit 3).

[20] http://media.web.aol.com/media/press_view.cfm?release_num=45100401&title=America%20Online%20Delivers%20%27AOL%20Mobile%27%20Services%20To%20AT%26T%20Wireless%20Internet%2DReady%20Phones; http://media.web.aol.com/media/press_view.cfm?release_num=40100448&title=AMERICA%20ONLINE%20AND%20SPRINT%20DELIVER%20%27AOL%20MOBILE%27%20SERVICES%20TO%20THE%20SPRINT%20PCS%20WIRELESS%20WEB; http://media.web.aol.com/media/press_view.cfm?release_num=40100428&title=Vodafone%20AirTouch%20Selects%20the%20Alliance%20as%20Global%20Partner%20for%20Internet%20Wireless%20Solutions.

- *PDAs.* IM is being integrated into a plethora of PDA devices such as, "Palm Pilots" and "Pocket PCs."[21] This will allow users to stay in touch with the office while still enjoying the computing capabilities provided by PDAs. AOL has likewise recognized the potential for IM in this area and has announced plans to make IM service available through a BlackBerry-like device called AOL Mobile Messenger.[22]

- *Interactive TV.* In a recent *ex parte* slide presentation to the Commission by Barry Schuler, President of AOL's Interactive Services Group, AOL has made clear that IM will be integrated into interactive video programs and is critical to providing subscribers access to the full range of interactive services offered through AOLTV. One slide entitled "Extending the Best of Interactivity to TV" proclaims that AOLTV will offer users access to a "Community of 23 Million AOL Members," a clear reference to the centrality of IM in AOLTV and the exclusivity of the current AOL Instant Messenger software.[23] Another slide asserts that "AOLTV Brings Popular AOL Features to TV Experience," including "AOL Buddy List and Instant Messaging," confirming that AOL intends for IM to be a vital part of its interactive program offerings.

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[21] *Pocket PCs: No Longer just a Toy*, InformationWeek (July 17, 2000); Kamran Sirazi, *Thumbnail: Instant Messaging (IM) Services* (July 2000) (attached hereto as Exhibit 4); http://www.zdnet.com/anchordesk/story/story_4465.html; http://www.zdnet.com/anchordesk/story/story_3714.html; http://www.zdnet.com/eweek/stories/general/0,11011,2614719,00.html; http://www.zdnet.com/anchordesk/story/story_4225.html; http://media.web.aol.com/media/press_view.cfm?release_num=40100408&title=Palm%2C%20Inc%2E%2C%20Sun%20Microsystems%20and%20iPlanet%20Plan%20to%20Develop%20End%2DTo%2DEnd%20Enterprise%20Wireless%20Solution; http://messenger.yahoo.com/messenger/palm/downloads_palm_msgr.html.

[22] Amy Harmon, *E-Mail You Can't Outrun*, at G1 (Sept. 21, 2000); http://media.web.aol.com/media/press_view.cfm?release_num=25100396&title=AOL%20%26%20Research%20In%20Motion%20Announce%20Agreement%20To%20Offer%20Wireless%20AOL%20Instant%20Messaging%20%26%20AOL%20E%2DMail%20to%20Consumers%20through%20%27AOL%20Mobile%20Messenger%27; http://media.web.aol.com/media/press_view.cfm?release_num=25100392&title=America%20Online%20Goes%20Wireless; http://media.web.aol.com/media/press_view.cfm?release_num=45100402&title=AOL%20and%20OmniSky%20to%20Offer%20%27AOL%20Wireless%27%20Features%20and%20Content%20on%20OmniSky%20Wireless%20Internet%20Service; http://media.web.aol.com/media/press_view.cfm?release_num=25100405&title=RTS%20Wireless%20%26%20America%20Online%20In%20Licensing%20Agreement.

[23] The slides quoted in this paragraph were attached to AOL's August 25, 2000 *ex parte* notice.

PRESENCE AND INSTANT MESSAGING REPORT (tm)

Provided by: Technical Marketing Inc. and pulver.com, Inc.

The August, 2000 Issue:

In this Issue:

Welcome to the first issue of the Presence and Instant Messaging Report, produced by Technical Marketing Inc. in association with pulver.com! Our purpose in starting this report is to help develop the Presence and IM community, and provide the resources and links that industry participants need to understand business and technical issues.

We envision this report and its companion web site (www.instantmessaging.org) to be a sort of electronic forum for two way conversations about the Presence and Instant Messaging industry. Please send your comments and feedback on this report to: mona@tech-marketing.com. Your suggestions for topics for future reports would be appreciated!

AN EMERGING INDUSTRY

Over the past few months, I've been attending conferences and industry meetings and talking to industry participants with the goal of beginning

to understand the Presence and IM (Instant Messaging) industry. Presence and Instant Messaging appear to me to be the first set of new functionalities and services to emerge from all the hype about "next gen" services.

With the help of Pam Zetterlund-Clark, I've spent some time talking with the 64 companies we've initially identified as being in this space. Of these 64, the majority (57) are based in North America, and 27 are public, 36 are private and one is an open source code project. While many are involved in industry efforts to encourage interoperability, they are also launching products and services at a rapid rate! Fasten your seat belts - the industry is immature, fast moving and already wrestling with some complex problems.

I noticed at Jeff Pulver's first IM conference in Boston in May just how young this community is. Most of the attendees didn't know each other, and didn't know anything about each other's companies. I thought it would be useful to attempt to develop a description of the Presence and IM industry structure, to give the community a way to talk about what products and services their companies provide. My first attempt at this description is at www.instantmessaging.org under the industry section. I took a quasi-architectural layered approach, with infrastructure vendors forming the base of the industry, and applications, devices and components towards the top. You'll see that billing and security functions are needed at several layers of the diagram. However, we've not found a lot of billing or security players targeting the Presence and IM market specifically.

We'd love to hear your comments on this diagram. The folks at Bantu and others have already pointed out that although the applications ride on top of the specialized service providers' platforms, they can also be provided from a service provider like Bantu in a hosted environment. This means that layer could reside under the specialized service provider layer as well as above it. I'm sure we'll go through several iterations of this diagram as we receive comments and as the industry matures.

My next task was to try to place industry participants/community members under the categories shown in the diagram. This exercise also demonstrated the immaturity of the industry, with many players providing all the functions or layers. Some applications developers are also service providers. As the industry matures, I think you'll see more players focusing on specific layers, including the presence service provider layer, and more of a wholesale business model. Here's my first pass - I welcome your comments:

INFRASTRUCTURE VENDORS

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dynamicsoft
Elity
Ericsson
jabber.com
Novell
Software.com
UPOC
Vovida
WapIT

SERVICE PROVIDERS - PRESENCE MANAGEMENT AND DIRECTORY SERVICES

I-Link
Locus
MeetU
NetLert (Directory Services)
NetNumber (Directory Services)

SERVICE PROVIDERS - IM AND RELATED SERVICES

Alta Vista
AOL
Bantu
Blue Rock Ranch
Boomerang
dialpad.com
ecal
FireTalk
ICQ
iBasis
I-Link
Iobox
Lycos
Mediaring.com
metatel
MSN
Net2Phone
NTT DoCoMo
OZ.COM
PeopleLink
Tribal Voice
Truly Global
Visitalk.com
Vocaltec
Yahoo

VERTICAL OR SPECIALIZED SERVICE PROVIDERS

Community Services

AOL
CrowdBurst
HotLine Communications
PeopleLink
Yahoo

Conferencing/Chat

AOL
Bantu
Blue Rock Ranch
Boomerang
CUseeMe Networks
Hotline Communications
mediaring.com
MeetU
PeopleLink
Tribal Voice
Visitalk.com
Yahoo

ecommerce/CRM

EzCRM
Isky
mediaring.com
Net2Phone
Surf&Call Network Services

mcommerce

Oz.com
UPOC

Collaboration

CrowdBurst
Hotline Communications
mail.com
MeetU

Tribal Voice
Visitalk.com

Gaming/Dating

Hotline Communications

Distance Learning

CuseeMe Networks

Event Management

CuseeMe Networks
PeopleLink

APPLICATIONS

Basic IM

AOL
Bantu
Blue Rock Ranch
Boomerang
CenterSpan Communications
CUseeMe Networks
Epicware
Ericsson
ICQ
Jabber.com
MeetU.com
MetaTel
My Solutions Nordic
MSN
Multimate.net
NetLert
Novell
Odigo
Oz.com
PeopleLink
Tribal Voice
UPOC
Yahoo

PAM/Presence

IDap
MagNetPoint
MeetU.com
Multimate
Novell
Odigo
PeopleLink
SignalSoft (mobile location services software)
WapIT

Community Services

HearMe
Hotline Communications

Conferencing/Chat

CenterSpan Communications
Everybuddy
Ezenia
HearMe
Hotline Communications
MagNetPoint
Multimate.net
Odigo
Tribal Voice
WapIT

ecommerce/CRM

FaceTime
HearMe
netPCS Networks
Novell
Portal

mcommerce

Ericsson
OZ.COM
Upoc

Collaboration

CenterSpan Communications
Hotline Communications
My Solutions
Odigo
Tribal Voice

Gaming/Dating

CenterSpan Communications
Electronic Arts
Hotline Communications
Tribal Voice

Distance Learning

HearMe

Event Management

HearMe

SMS

AmikaNow!
Ericsson
iobox

VPN/Virtual Office

I-Link
VocalTec

DEVICES

Ericsson
I-Link

CHARGING/BILLING

Portal
Solect

SECURITY

Bantu
Blue Rock Ranch

Boomerang
mediaring.com (voice disguise)
NetLert
Novell

OTHER

AmikaNow! (content interpretation technology)
Digital Cyclone (location-based weather forecasts)
ecal (web-based calendar providing presence information)
Phone.com (software to provide mobile subscribers access to Internet-based info)
TelSurf (audio browser)
Wireless Knowledge (software to provide mobile subscribers access to Internet-based info)

Please let us know if your company needs to be reclassified!

STANDARDS AND INDUSTRY FORUMS

Efforts have been ongoing for months to develop standard Instant Messaging and Presence protocols in the IETF IMPP working group, and Novell, Lucent and pulver.com have started working with industry participants to develop the Presence and Availability Management API.

Both of these efforts are in "early days" stages, and so there's been no liaison or coordination between them at this point. Both the IMPP workgroup and the PAM specification have provided a set of definitions, but even these have not been compared or rationalized. This might be a good first step for any future liaison.

PAM FORUM SPECIFICATION REVIEW IN BOSTON

Pulver.com, Novell and Lucent held the first PAM (Presence and Availability Management) Specification Review meeting in Boston on July 16th. The following are my views of events and discussions during the meeting, and some thoughts about how PAM fits in to the Presence and Instant Messaging industry.

Lucent and Novell have collaborated on the initial development of the Presence and Availability Management API specification, and will

contribute the next version of the specification to a new organization called the PAM Forum. Pulver.com intends to sponsor the PAM Forum as part of pulver.com and Technical Marketing efforts to build a Presence and Instant Messaging Community. Steve Holbrook and Lynn Brough represented Novell at this meeting, and Guda Venkatesh represented Lucent (more on how to contact Steve and Guda through the Pam Forum web site later).

Attendees included representatives from Bridgewater Systems, Comverse, CuseeMe Networks, Evolving Systems, iDap Ltd, Lucent, MeetU.com, Mitel, MobileOne, Nortel Networks, Novell, Perceptive Networks, SurfandCall Network Services (a VocalTec company), TeleCommunications Services, Telefonica Data, TrulyGlobal Inc. (another VocalTec company!), and Tundo Communications and Telephony.

Lucent and Novell designed the PAM spec to facilitate interoperability across networks and services, and after receiving industry input, would like to have the spec become an ad hoc or formal industry standard. The goal of the PAM spec is to abstract presence to a single API, shielding developers from the multiple protocols and networks potentially involved.

The specification was also designed to address a perceived shortcoming in current presence management systems: if a subscriber is "present" he is assumed to be available. Currently, presence indicates a communications device is turned on. So, your buddy list may indicate that you are present when you are online, and your mobile network indicates that you are present when your phone is turned on. In fact, a subscriber has a set of preferences, which may specify he wants to be available only to certain callers, and only via certain devices or networks. In the PAM API world, availability is equal to presence plus this set of preferences.

There seemed to be basic agreement among meeting participants that Presence information will enable most services in the future. Some form of presence already enables current services such as mobile or wireless Location-Based Services, and Instant Messaging. PAM capabilities could be introduced at least three ways:

- PAM abstraction layer on top of legacy systems

- Use PAM API to expose presence info in existing presence-based services

- Add a PAM server as part of "next gen" architecture.

Comments and questions centered around Intellectual Property Rights (IPR), the scope of the specification, and relation to other protocols,

specifications and organizations. Guda, Steve and Lynn pledged to donate the specification to the PAM Forum in accordance with the IPR policy to be established by the independent Forum.

The discussion of the scope of the specification was wide-ranging and required extra caffeine. Discussion included:

- what should be implementation specific vs. part of the spec
- security (identity authentication and encryption are out of the scope of the current spec)
- whether the API spec should be mapped to protocols
- what is covered by SIP
- whether the PAM specification should initially address a single administrative domain.

While the PAM specification is intended to interwork with emerging mobile network standards and IM protocols, it is not clear from the current specification document how this would work. This may be something the PAM Forum looks at in the future. Relationship to other organizations, particularly the IETF's IMPP working group is another future topic. From a PAM perspective, the IMPP working group's dual focus on IM and Presence has led to the "dumbing down" of Presence management capabilities to keep IM protocols simple (more on this under the Question of the Month).

Another hot topic is providing the end user or "callee" control of information and how he is communicated with.

The group agreed that Lucent, Novell and pulver.com should formally set up a new Forum (the PAM Forum), which will own the specification. A formal IPR policy should be published. As soon as these items are completed, the industry can provide formal written comments on the specification. To discourage "lurkers", initial PAM Forum membership may be limited to companies/individuals providing substantive input.

Lucent and Novell ended up with a large to-do list to move the specification towards Version 1.0, which they will contribute to the PAM Forum. It was agreed that a diagram to accompany definitions, particularly those of agents vs. identities, will be provided by Lucent and Novell. Also, a definition of capability will be added, and some sort of reference architecture will be provided. A set of "use cases" was also suggested to understand the PAM specification from a business perspective.

It was in preparing for this meeting and summarizing Intelligent Network Forum member comments on the PAM spec that I realized how complex services delivery across multiple networks and technologies is getting to be. This spec is a great start at addressing interoperability as well as

developer needs for abstraction. There is a MASSIVE amount of work to be done to achieve even high level interoperability with existing and future mobile and IM networks, and to map this API spec to various protocols or implementations. A good first step would be to attempt to sync up PAM definitions with those of the IMPP working group.

This detailed services delivery work isn't glamorous, and doesn't attract a "religious" following, but it has to be done. With so much industry pressure to deliver solutions quickly, industry participants tend to want organizations to provide one simple, quick answer to interoperability. The PAM Forum's next step after delivering version 1.0 of the specification should be to prioritize the large amount of work to be done, and to begin building liaisons with related industry organizations.

Want more information? Check out www.pamforum.org, where Novell and Lucent have posted the current version of the specification. General information and background information is available, and there is a feedback button for comments and questions. This feedback button is the best way to reach Guda and Steve.

THE IETF'S IMPP WORKING GROUP

The Instant Messaging and Presence Protocol (IMPP) working group has as its goal to "develop an architecture for simple instant messaging and presence awareness/notification...[and] specify how authentication, message integrity, encryption and access control are integrated." The working group had not made significant progress by the IETF meeting in Adelaide this spring. Frustrated by this lack of progress, the IESG (Internet Engineering Steering Group) took the unusual step of shutting down working group efforts and asking for separate proposals from industry players. The concept was that the working group chairs would pick out the best parts of these proposals and direct the workgroup to consolidate them into one recommendation.

A model was provided by Fujitsu, dynamicsoft, and Lotus, with the goal of providing a common vocabulary for these proposals. The model defines presence and IM as separate services, and contemplates separate protocols for each.

Two types of clients are defined for presence: presentities (which provide presence info) and watchers (which receive presence info). Two types of clients are also defined for instant messaging: senders and instant inboxes. Senders provide messages; the instant inbox receives the message. Of course, a presence protocol carries presence information

between presentities and watchers, and an IM protocol carries instant messages between senders and instant inboxes. The model also specifies the type of data found in presence systems and provides a set of definitions. The model is available at www.http://www.ietf.org/rfc/rfc2778.txt.

A separate RFC (http://www.ietf.org/rfc/rfc2779.txt) specifies shared IM and presence requirements, as well as requirements specific to IM and presence and security considerations.

I've waded through the nine submissions that were made to the working group in mid-June, and made some observations from an industry analyst point of view (not a technical evaluation!). My thanks to Ben Ziskind of Bantu and Jonathan Rosenberg of dynamics oft for their assistance with this section.

The first thing I noticed is that not all of the submissions address multiple domains or service providers. This seems odd, because the lack of interoperability among service providers is a major obstacle to industry growth. I also noticed that not all submissions specified separate protocols for presence and messaging, although the requirements are somewhat different.

Also striking was the resemblance of many proposals to Wireless Intelligent Network and GSM (define) concepts. In these proposals, the home server in the home domain maintains the presence information, and this is similar to the Home Location Register in mobile networks maintaining the subscriber profile. If any of these proposals find their way into an industry standard, this may support interworking of IP-based presence services with mobile network presence services.

I've made a pass at summarizing these submissions. If you'd like to view the full submissions, you can access them via www.imppwg.org/proposals/index.html.

1. Submission from Invisible Worlds, Content Technologies Ltd., Brandenburg Consulting

This submission defines the IMXP protocol, and "IMXP Access Service" which controls the relaying of messages, and "IXMP Presence Service" which allows applications to communicate with presence servers in multiple administrative domains. IMXP is specified as a BXXP profile.

2. Submission from Fujitsu

Fujitsu's submission defining Privacy enhanced Presence Protocol addresses use in a single administrative domain. Unlike other submissions, Fujitsu's proposes using a single protocol (PePP) for both Presence and IM. As discussed above, the proposed architecture seems to resemble the Wireless Intelligent Network/GSM concepts of the home server in the home domain being where presence information resides. However, it does not resemble mobile networks in that a client can only communicate with its home server. The home server communicates with servers in other domains regarding presence information. The Fujitsu submission notes that PePP has features to avoid server and connection bottlenecks and to increase scalability.

3. Greg Hudson (MIT)

The submission from Greg Hudson, Instant Message and Presence Transfer Protocols, is similar to the Fujitsu proposal in that it has clients communicating with home domain servers, and servers talking to each other. Multiple domain responsibilities are beyond scope of this document. The protocols for Presence (Presence Information Transfer Protocol or PITP) and Instant Messaging (Instant Message Transfer Protocol or IMTP) are similar, and described in the same document.

4. Submission from Alexander J. Fanti

This submission specifies a protocol called RSVP-PP, or Real-Time Messaging Transport Protocol. This protocol is not related to other protocols with the RSVP names. It appears to me that Mr. Fanti is addressing both Presence and IM transport with this protocol, and that he's working on a protocol called RSVP-IMP to address message content.

As with other submission, clients talk only with servers. Server to server communication is used for presence status updates (using UDP) and for validation of subscriber permission.

5. dynamicsoft, Columbia University, Cisco, and Microsoft

The submission from dynamicsoft, Columbia, Cisco and Microsoft consists of several proposals for extensions to SIP to address the requirements laid out by the RFP. SIP call setup resembles presence, and therefore SIP addresses many of the requirements for providing presence. SIP already provides for registration and storage of the communications state. An extension to SIP, with two new SIP methods, SUBSCRIBE and NOTIFY, and a new logical entity - the presence agent, meet requirements for presence.

The submission proposes an extension with a single new method for SIP to

address IM requirements. The similarity between SIP's Session Initiation concept and IM should make this extension simple.

6. AOL - IMX

The AOL submission addresses interoperability across multiple domains without actually specifying any protocols. Emphasis is on problems with security, and with feature sets working across systems. This approach focuses on the protocol between servers, not the protocol between clients and servers, which would make authentication difficult. The submission also describes AOL's intent to develop the IMX (Instant Messaging eXchange) architecture, which will use Gateways to relay messages in MIME format between servers. The IMX protocol uses XML for the markup of messages. No details of the protocol or protocols to be used between servers is specified.

7. Jabber.org

The Jabber.org proposal is similar to AOL's IMX in that it uses server gateways to relay communications, and each server handles all communications for the clients connected to it. Jabber.org proposes use of its API to provide Presence and IM capabilities. This API is an abstraction layer using XML. The advantage of this approach is that developers and clients would only have to understand simple XML data types for presence and IM, not the underlying complexity of various IM networks.

8. Network Projects Inc.

This submission (One IM) defines a set of functional modules needed to provide Presence and IM services. The submission notes that the connection model described may not be suitable for mobile network, and speculates that a different set of protocols may be needed for each device or network. The submission proposes gateways to translate between protocols.

9. Microsoft

Microsoft submitted a supplemental proposal on the RVP protocol meant to describe an existing implementation (Microsoft Exchange 2000) of IMPP work.

The working group chairs' recommendations were as follows:

* The protocol should be compatible with SIP, to allow SIP servers to be

presence servers
* The protocol should be able to run on top of a BXXP mesh
* The protocol itself should not be based on SIP or RVP
* The protocol should be based on one of the other seven proposals.

During July, working group members began to discuss the idea of splitting the working group into two tracks - a SIP group and an IMXP group. The Area Directors indicated that more than two groups would be acceptable, and solicited charter proposals and names of working group chairs. The hope was that this would be organized before the IETF meeting the week of July 31st in Pittsburgh. Much heated discussion ensued, and the oneIM, Fujitsu and other proposals agreed to merge. This effort is now referred to as "Group 2".

In Pittsburgh, the working group designated a task force of nine members to analyze three different directions: SIP, IMXP and Group 2. The task force is charged with defining a common set of functions the protocols need to do, including a common presence format, common naming infrastructure, and mapping to a simple protocol flow. If these commonalities can be defined, then gateways could be built to interconnect networks using the three protocols, hopefully without a huge loss of information. The task force is also supposed to develop a statement about why it is not possible to use a single protocol, if that is its decision.

The task force's report is due August 21st. Ben Ziskind, of Bantu, who attended the IETF meeting in Pittsburgh says " With regards to what I saw at the IETF meeting, the SIP and IMXP factions were really going at each other on philosophical grounds - doing Presence over a Messaging layer or doing Messaging over a Presence layer."

In the meantime, AT&T, Excite@Home, iCAST, MSN, Odigo, Phone.com, Prodigy, Tribal Voice and Yahoo! have formed a new coalition called IMUnified. This appears to be an effort to achieve at least server to server interoperability for their IM services while the IMPP working group attempts to come up with one to three standard protocols. I'm not sure what the IMPP working group would achieve with three protocols and a gateway that would be better than IMUnified at this point. We'll report more on this in next month's newsletter, but it looks like IMUnified's work could become the ad hoc standard for IM interoperability while the IETF tries to achieve consensus.

INTERVIEW WITH DYNAMICSOFT'S JONATHAN ROSENBERG

I had breakfast with Jonathan Rosenberg, Chief Scientist at dynamicsoft, at the VON Developers Conference in July. Dynamicsoft is developing a SIP(Session Initiation Protocol)-based applications server that supports Presence and Instant Messaging in addition to voice, video and other communications. One of Jonathan's responsibilities is to work within the IETF's IMPP (Instant Messaging and Presence Protocol) Working Group to promote SIP-based protocols.

Dynamicsoft sees its target market as the space where IM, presence, and voice converge. For example, the company is building an instant conferencing application. With this application, users can go to a web site and type in a list of the people they want to conference with. The application will monitor the presence information of these people, then ring their PSTN phones when everyone is available.

Like other industry players, dynamicsoft will profit as the industry grows and matures, and Jonathan and others are focusing on the lack of interoperability among current IM service providers as the major obstacle to growth. This lack of interoperability is caused by the use of proprietary protocols, and this is why Jonathan and others are putting so much effort into the IETF IMPP Working Group, to try to develop industry standard IM and Presence protocols. Jonathan co-authored the working group's RFCs "A Model for Presence and Instant Messaging" in an effort to jump-start workgroup progress.

In case it's not obvious, Jonathan is an advocate of extending SIP to develop industry standard IM and Presence protocols. He cites several reasons he thinks SIP should be the protocol of choice:

- SIP is already an IETF standard
- SIP call setup and presence are similar concepts, and a significant amount of the requirements for presence protocols can be met by existing versions of SIP
- SIP uses MIME [Multipurpose Internet Mail Extension, an IETF protocol for transferring multimedia files or objects over TCP/IP networks] , and can carry IM text as well as presence data
- Simple SIP extensions could easily handle all Presence and IM protocol requirements
- Network operators and service providers already using SIP would benefit from being able to reuse existing hardware and software for Presence and IM services
- SIP simplifies the delivery of services that span voice, video, IM and presence.

While Jonathan is the first to admit he can't predict the outcome of the IMPP Working Group's work, he believes the current contentious but

detailed discussions are a healthy way to work towards industry consensus.

QUESTION OF THE MONTH

Right now, the media spotlight is on Instant Messaging, rather than the underlying presence capability. In researching IMPP and PAM and related issues, I could see that the IM protocols proposed to the IETF's IMPP working group are pretty simple (this could be seen as an advantage or disadvantage, of course). I noticed that some of the submissions to the IETF proposed using the same protocol for both Presence and IM (although the working group seems to be moving away from this approach after the Pittsburgh meeting of the IETF). I asked some of the experts whether they thought this focus on IM and the effort to simplify IM protocols would keep us from taking full advantage of the capabilities of presence management in the long run.

The good news is that most of our industry experts think I'm wrong! Most took a pragmatic business-oriented view, and pointed out that the focus on IM protocols is a good first step. John O'Sullivan, the Director of Product Marketing at Hotline, agreed that the focus on IM is distracting the industry from "the larger topic of presence management". In his view, it's natural "to identify the concept with the application", so the tendency is to focus on the familiar IM application rather than the underlying concept of presence. John pointed that this focus on IM is not necessarily a bad thing. "Most participants would agree that protocol standardization is desirable and the immediacy of the issue has provided impetus to find a solution."

Alex Diamandis, VP of Alliance Marketing at Odigo, John Edwards, Chairman and CEO of I-Link and Randall Warren, President of Blue Rock Ranch all agreed with John O'Sullivan that the initial focus on IM would not be a problem. John Edwards noted that the focus on simplifying IM protocols should be viewed as "a necessary step to promote a wider adoption of the [IM] technology", but would lead to richer options for presence management in the long run. Randall Warren added, "Compatibility between messaging and presence software packages would allow consumers to select the products based on their capabilities as opposed to the size of the installed base or what brand their respective contacts are currently using."

Jonathan Rosenberg of dynamicsoft pointed out that his company "has already proposed the modest extensions to SIP that will provide full presence support" and that "even simpler extensions to SIP can easily address the needs for an IM protocol."

Some on our expert panel viewed simplicity as an advantage. Eric Peyton, founder of Epicware, noted that a simple interface to presence management would allow the functionality to be used in a "wider array of applications". "For example," Eric noted, "... with a clean and standard interface, PM/IM functionality that worked cross protocol could be integrated into mail clients to know if someone is going to immediately receive a sent mail or not."

Just as I was beginning to think I was looking for a problem when there wasn't one, Harry Hakansson, General Manager of Interactive Communications at Ericsson, weighed in. Harry says "The focus on simplifying IM Protocols will only slow down the roll out of new and exciting services." He asked that the industry take advantage of the existing complete presence management capabilities (which we've seen in demos of Ericsson's iPulse products) while pushing for interoperability.

Sue Abu-Hakim, President and CEO of AmikaNow!Corporation took a different approach, suggesting that the industry should focus on delivering "...IM with existing protocols such as those of wireless that permit SMS (short message services)." She thinks the industry should focus on bringing North American mobile networks up to par with those in Europe and Japan, where she notes end-to-end two way short message services are already possible.

The comments that made the most sense to me came from Dr. Kjartan Emilsson, CTO at OZ.COM. Kjartan thinks the "...focus on IM sort of hides the complexity involved in presence management. If we compare this to e-mail, then I think at the time everybody wanted interoperability of e-mail, and when it happened it laid the grounds for its widespread use. At the same time people began realizing the drawbacks: no security, spam, and so on. Since then this has been partially addressed by new standards, better e-mail clients and more careful use of e-mail in general, but we still live in a world where the vast majority of e-mails are sent unencrypted between people and there is practically no way to avoid spamming."

Kjartan continued "...I think that interoperability of IM will lead to its general use, but as it is linked fundamentally to the notion of presence, I think that we will quickly realize that if nothing is done on the presence management side of things, it might become more annoying than useful. On the other hand, the interface between IM and presence can be made pretty clean, meaning that changes and improvement of presence management does not need to affect the use and distribution of IM. So going for an all out spreading of simple IM is good for the industry, but we need to make sure that the presence management part of it can be upgraded rapidly to meet all the foreseeable problems arising from poor

presence management."

I think these comments show a growing industry awareness of the need for a clean interface between IM and presence, and the need to treat the two functionalities separately. It appears that the question of how to treat presence versus IM is emerging as one of the fundamental issues in the IMPP working group.

BANTU LAUNCHED

Most Presence and IM services available now are client-based applications for Windows. Over the past few months, I've tried to use IM to communicate with colleagues behind corporate firewalls, and their IT departments have balked at allowing them to down load these clients. It appears to me that IM would be a significant productivity enhancer in corporate environments and in the industry, and that corporations have been missing out on a great way to improve communications with their customers and also among employees.

It appears that Bantu has addressed this problem with its new hosted service. I talked with Larry Schlang, President and CEO and Dana Theus, VP of Marketing, as they were preparing for the August 1st launch of Bantu Messenger, a hosted IM solution. Bantu Messenger is the flagship service of the new company, and it provides Instant Messaging and Presence, with a chat component. Because Bantu is a hosted solution and the entire application resides on Bantu servers, users can access their Bantu service from any web device, and there is no client software to download. This should make the service very attractive to corporate users and their IT departments.

The advantages of a hosted solution are the lack of overhead for IT departments and the ability to access the service through any platform or appliance that has web access. As with other hosted services, solutions are easy to implement, and are updated by the host/outsourcing company.

I understood how this "thin client" solution addressed the problem of IT department objections, but then what about getting a message through corporate firewalls? Bantu messages look like http web pages, which the Bantu team says allows Bantu Messenger to work through most firewalls and proxy servers.

The more I know about presence management, the more I'm interested in solutions that address privacy concerns. Bantu encrypts message streams between users, and also offers different levels of privacy protection. A

Bantu subscriber can set his status to invisible, which means other subscribers can't tell he's online. The subscriber can also set exceptions to this - he can select people who are allowed to see through this "cloak of invisibility". There is also an "ignore" list - a list of people the subscriber does not wish to receive messages from!

Bantu Messenger interoperates with ICQ, Yahoo and MSN. Larry IM'ed me on my Yahoo Messenger account while we were talking, so I can attest to the Yahoo interoperability. Bantu also supports multilingual web sites, including Spanish, Portugese, French, Italian, German and English.

I asked Larry and Dana to describe their business model. Bantu is a B2B provider of Presence and IM, providing instant communications to corporations, web sites and ISPs. Bantu's revenue stream comes from usage, subscription or user-based fees from partners such as Lycos Latin America, OneMain and ILN.net.

If you'd like to check out Bantu Messenger for yourself, go to www.bantu.com. We'll be watching Bantu to see if this model of hosted service increases the usage of IM in corporate environments.

UPCOMING EVENTS

October 24-25, 2000 - pulver.com's Wireless Internet Summit
New York, NY (http://pulver.com/wirelesssummit)

November 28-30, 2000 - Fall 2000 Presence and Instant Messaging
San Jose, CA (http://pulver.com/im2000)

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